

# A battery that runs on your sweat, literally (<https://www.forbesindia.com/article/forbes-lives/a-battery-that-runs-on-your-sweat-literally/69929/1>)

By AFPRelaxnews | Aug 21, 2021

Researchers from Nanyang Technological University, Singapore, have developed a new innovative battery powered by perspiration



*Researchers have created a new type of battery that is able to produce electric current using sweat.  
Image: AzmanL / Getty Images*

Researchers from Nanyang Technological University, Singapore, have developed a new innovative battery powered by perspiration.

What if we could recharge batteries with our own sweat? That's the question researchers at a Singaporean university asked themselves. The device designed by engineers there measures 0.8 square inches and is as flat as a Band-Aid. The prototype battery runs on perspiration and can discharge 20 hours of electricity from just 2 ml of sweat. At this point, it is only usable on small portable devices.

\_RSS\_The soft, stretchy battery is attached to a stretchy textile that will absorb sweat at the wrist or forearm. It is also possible to attach it to objects like smartwatches

(<https://www.forbesindia.com/article/work/the-battle-of-smart-watches/45203/1>). The textile absorbs and retains the sweat to provide the battery with a constant supply of power, even if the rate of perspiration varies. The great advantage of this sweat-powered battery is that it does not contain any toxic chemicals or heavy metals, so there is no risk to your health or the environment.

### Reducing electronic waste

"Our technology heralds a previously unattainable step in wearable device design," said paper author and materials scientist Pooi See Lee of Nanyang Technological University. "By taking advantage of a ubiquitous product, perspiration, we may be able to envision a more environmentally friendly way to power wearable devices

(<https://www.forbesindia.com/article/work-in-progress/wearable-technologys-great-leap-forward/42985/1>) without resorting to conventional batteries."

Initial testing took place on a person wearing the battery around his wrist during a 30-minute exercise bike session. The volunteer was able to generate a voltage of 4.2 V, enough to power a temperature sensor and send its collected data to a smartphone throughout the process. This new battery design could reduce hazardous electronic waste

(<https://www.forbesindia.com/article/news-by-numbers/news-by-numbers-indias-mountain-of-ewaste/65911/1>) and toxic materials.

Now, the researchers are trying to determine how body heat affects the battery's performance while exploring the effects of human sweat. The team has filed a patent application for the new battery through NTUitive, the enterprise and innovation company of Nanyang Technological University.

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